Product Technical Information

ARA 01
Active
Receive
Antenna
The Active Receive Antenna (ARA01) is a compact emissions antenna with an antenna factor comparable to a conventional wideband passive antenna such as the Bilog™.

The small size makes the ARA01 particularly suitable for use in anechoic chambers; however it can also be used on an Open Area Test Site (OATS) or at on-site locations.

The ARA01 features two sets of interchangeable Dipole Antenna Elements (DAE). The standard set (DAE01) is optimized for 200 MHz to 1 GHz, with usable sensitivity down to 30 MHz. For improved sensitivity between 30 MHz to 300 MHz, the optional DAE02 set is available.

Features

- Stable
  - Repeatable measurements
- Bilog™ equivalent antenna factor
  - See output measurement graphs
- 30 MHz to 1 GHz range
  - Most commonly used EMC measurement range
- Compact and portable
  - Measurements in confined spaces
  - Measurements where equipment must be hand carried
  - Field testing
- Low cost
  - Affordable measurement systems

Applications

- Radiated emissions measurements in a confined area
- Low cost alternative to passive wideband antenna
- Portable measurement systems

Specifications

- **Frequency range**
  - 30 MHz to 1 GHz (200 MHz to 1 GHz optimum) using DAE01 antenna elements
  - 30 MHz to 300 MHz (optimum) using DAE02 antenna elements

- **Output connector**
  - 50 Ω BNC jack

- **Dynamic range**
  - 90 dB

- **1 dB compression**
  - 15.4 dBm / 35.5 mW / 1.33 V (in a 50 Ω system)

- **Antenna factor**
  - See graph below

- **Temperature stability**
  - <1 dB, at an ambient temperature of 5 °C to 45 °C

- **Time stability**
  - Typically <1 dB over a 12 month period

- **Dimensions**
  - 34 mm × 34 mm × 150 mm (168 mm including connector) excluding dipole elements

- **Weight**
  - 0.39 kg (including battery)

- **Power supply**
  - Single 9 V battery (PP3 or equivalent)

- **Operating time**
  - 6.5 hours typical with alkaline cells

- **Indicators**
  - Power on, low battery
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**Standard kits**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
<th>Parts included</th>
</tr>
</thead>
</table>
| ARA01KIT01   | Standard ARA 01 active receive antenna kit with pair of 200 MHz to 1 GHz antennas | • ARA 01 Active receive antenna
  • 2 × DAE01 – 100 mm long antenna elements
  • CAL08 – antenna factors, 30 MHz to 1 GHz
  • Alkaline battery
  • Case |

**Accessories**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAE01</td>
<td>200 MHz to 1 GHz (optimum) set of 100 mm long antenna elements</td>
</tr>
<tr>
<td>DAE02</td>
<td>30 MHz to 300 MHz (optimum) set of 270 mm long antenna elements</td>
</tr>
</tbody>
</table>

**Active Receive Antenna: ARA 01**

**Typical characteristics**

![Graph showing antenna factors for ARA01](image1)

![Graph showing radiation pattern for DAE01](image2)